

## Abstract

In an adaptive routing for a hierarchical interconnection network using a mesh in a lower rank and a torus in a higher rank, an inter-basic-module link in the interconnection network is constituted by a ring-like link including  $2^m$  nodes and a round-around channel; and a dynamic selection algorithm of a channel in the inter-basic-module link routes a packet such that, when virtual channels L and H in the same link in the upper rank, the head of the packet uses channel L at the start of a routing, the head of the packet moves to channel H immediately after the packet passes through an wrap-around channel; and, when the packet at channel L satisfies two conditions: (1) the wrap-around channel is not expected to be used in the middle of the routing; (2) a routing is expected to be ended when the packet passes through the wrap-around channel, the head of the packet can select channel H.